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NANONIS TRAMEA – A Quantum Transport Measurement System THORSTEN KAMPEN, ANDREAS THISSEN, OLIVER SCHAFF, ALESSANDRO PIODA, SPECS Surface Nano Analysis GmbH — Nanonis Tramea is a quantum leap with respect to increased speed for transport measurements taking research onto a new level. Measurements which took several hours in the past can now be done in minutes without compromising signal quality. Tramea uses its fast, high-resolution, high-precision and ultra-low-noise outputs and inputs to generate and acquire up to 20000 data points per second on 24 channels in parallel. This is not only up to 1000 x faster than typical measurement systems but it is also time deterministic with highest precision. Here, the time separation between points is constant so that artefacts caused by unequal point spacings in non-deterministic measurement systems are avoided. The emphasis here is the real-time relation. Tramea comes with a built-in interface which allows for control of the instruments' basic functions from any programming environment. For users requiring more functionality and higher speeds a full-featured LabVIEW-based programming interface or scripting module are available as add-on modules. Due to the modularity and flexibility of the hardware and software architecture of Tramea upgrades with standardized add-on modules are possible. Non-standard requests can still be handled by the various programming options.

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